



Reliance Jio

Infocomm Limited

RJIL/TRAI/2015-16/433
December 7th, 2015

To,
Sh. Arvind Kumar,
Advisor (NSL),
Telecom Regulatory Authority of India,
Mahanagar Doorsanchar Bhawan,
Jawaharlal Nehru Marg,
New Delhi - 110002

Subject: TRAI's Consultation Note on IP Based Interconnection (No. 7/2015 Dated 27.11.2015)

Dear Sir,

Please find attached comments of Reliance Jio Infocomm Limited on the issues raised in the Consultation Note on '**IP Based Interconnection**' released on 27.11.2015.

Thanking You,

Yours sincerely,
For **Reliance Jio Infocomm Limited,**


Kapoor Singh Guliani
Authorised Signatory



Encl.: As above.

"Formerly, Infotel Broadband Services Limited" CIN : U72900MH2007PLC234712

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RELIANCE JIO INFOCOMM COMMENTS ON TRAI'S CONSULTATION NOTE ON IP BASED INTERCONNECTION (No. 7/2015 Dated 27.11.2015)

1. At the outset, RJIL thank the Authority for issuing this consultation note to deliberate the vital issue of IP based Interconnection.
2. From the present trends of network deployment in India as well as across the world, it can be observed that there has been a remarkable shift towards IP technology. This has enabled greater network efficiencies, network optimisation and service offering optimisation to achieve convergence of voice, video and data services over integrated networks.
3. The vision of NTP-2012 and Digital India i.e. convergence, affordability, digitally empowered society, smart cities, knowledge economy etc. can only be achieved by way of shift towards IP technology. The deployment of IP-based networks is imperative for us to create digital economy for the benefit of all the citizens of the country and transition towards IP based interconnection between various telecom networks is one of the most important step in that direction.
4. Most of the TSPs in India have already installed/ upgraded to IP based core network for carrying voice and data traffic. In some cases, fixed line service providers have also replaced their existing Tandem/Tax switches with NGN soft switches and interfaced with existing PSTN network through Media Gateway. However, the current licensing/regulatory regime are inhibiting migration to IP based interconnection thus hindering wide adoption of IP technology across the networks. Therefore, the telecom operators who are deploying IP networks have no other choice but to undertake additional investments in the old TDM technology to interconnect with each other. This is limiting the network efficiencies of IP-based networks thus affecting their growth and depriving the



consumers of the benefits of low cost converged efficient networks and new services.

5. In the absence of explicit permission for IP interconnection in the licence agreement, even bilateral IP based interconnection arrangements are being denied to the new entrants. As a result, in the current interconnection regime the provision with respect to IP based interconnection gets limited to *“Both the Parties agree to migrate the links to IP (Internet Protocol) as and when permitted by DoT.”* and the operators have no other choice but to undertake additional investments in the TDM technology. **Therefore, as a first step, it is necessary that the service providers having IP networks are mandated to have IP interconnection amongst them with immediate effect.**
6. Reliance Jio Infocomm Limited support the view of TRAI that the amendment in the Licence agreement is required to ensure that the revision if any, required in the existing terms and conditions of interconnection, as and when notified by TRAI, should be in harmony with the terms and conditions of license agreement.
7. **It is also submitted that Telecommunication Engineering Center (TEC) has recently released the Standard for IP based interconnection between service providers’ networks (as can be seen on the website of TEC). This document defines the various requirements to be met at the IP interconnect interface to enable the public telecom networks to interconnect over IP links. The standard covers the Physical interconnection requirements, Signalling requirement, Codecs, Quality of Service, Quality of Service parameters for the end to end voice quality requirements, Emergency calling, Priority calling, Call detail record, Security Requirements.**



8. Further, when the transition towards all IP technology is widely recognised, it no longer makes sense for India to continue interconnection on outdated technology. Further, as long as the establishment of IP based interconnection is optional or the onus of converting PSTN voice traffic in TDM format rests with the new entrants, there is no incentive for the existing operators to migrate to the IP based Interconnection even though it benefits both the interconnecting operators. Therefore, the adoption of voluntary approach for establishment of IP based interconnection may not give the desired results and requires immediate intervention by the Authority. **It is therefore essential to mandate IP interconnection, which can be implemented in the phased manner as per following:**
- On immediate basis, prescribe IP based interconnection between two IP based network operators. The existing Interconnection between the IP based networks to be migrated to IP based interconnection within a time period of six months. The licence conditions may also be amended accordingly to establish IP based interconnections.
 - TRAI may prescribe the appropriate framework for IP based interconnection at the earliest which, inter-alia, mandates all the service providers to offer IP based interconnection as and when the same is requested by any licensee.
 - In case of TDM network operator, the cost of conversion of both from TDM to IP and vice versa should be borne by the operator offering interconnection with the TDM networks.
9. It is requested that to propel growth of IP-based networks in the country and enable to achieve the vision of NTP-2012 and Digital India, the Authority may kindly release its recommendations at the earliest for amending the licence conditions regarding IP based interconnections between various telecom operators. **Suggestions on the proposed amendment by TRAI to amend the Clause 27.3 of the Unified License are annexed as Annexure-I.**



Existing Clause 27.3 of Unified Licence	Proposed Text by TRAI for Consultation	Suggested Text by Reliance Jio Infocomm Limited for Amendment in Clause 27.3 of Unified Licence
<p>Interconnection between the networks of different Licensees for carrying circuit switched traffic shall be as per national standards of CCS No.7 as amended from time to time by Telecom Engineering Centre (TEC) and also subject to technical feasibility and shall be within the overall framework of interconnection regulations/ directions/ orders issued by the TRAI/ Licensor from time to time. For inter-networking between circuit switched and IP based network, the Licensee shall install Media Gateway Switch. Further, the Licensor may direct the LICENSEE to adopt any other technical standards issued by TEC on interconnection related issues.</p>	<p>Interconnection between the networks of different Licensees for carrying circuit switched traffic shall be as per national standards of CCS No.7 as amended from time to time by Telecom Engineering Centre (TEC) and also subject to technical feasibility and technical integrity of the Networks and shall be within the overall framework of interconnection regulations/ directions/ orders issued by the TRAI/ Licensor from time to time. For inter-networking between circuit switched and IP based network, the Licensee shall install Media Gateway Switch. Further, the Licensor may direct the LICENSEE to adopt any other technical standards issued by TEC on interconnection related issues.</p> <p>27.3.1 Interconnection between the IP based networks of different Licenses for carrying IP traffic shall be within the overall framework of the interconnection regulation/ directions/ orders issued by TRAI/Licensor from time to time.</p>	<p>Interconnection between the networks of different Licensees for carrying circuit switched traffic and IP based traffic shall be as per national standards, of CCS No.7 as amended from time to time by Telecom Engineering Centre (TEC) and also subject to technical feasibility and technical integrity of the Networks and shall be within the overall framework of interconnection regulations/ directions/ orders issued by the TRAI/ Licensor from time to time. Interconnection between the IP networks of different licensees shall be IP based. For inter-networking between circuit switched and IP based network, the Licensee having circuit switched network shall install Media Gateway Switch. Further, the Licensor may direct the LICENSEE to adopt any other technical standards issued by TEC on interconnection related issues.</p>

