



Telecom Regulatory Authority of India



Recommendations

on

Interconnection over IP Interface

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Recommendations on Interconnection over IP Interface

1. TRAI had issued a Consultation Paper on “Migration to IP based network” on 30th June 2014 which was followed by an Open House Discussion on the subject on 2nd December 2014. One of the issues in the consultation paper pertained to interconnection of an IP based network. In response to the consultation paper, some telecom service providers have submitted that as the imminent transition towards IP based network is widely anticipated, it is essential to amend the license conditions to explicitly provide for IP based interconnection.
2. Department of Telecom, vide its letter no. 20-281/2010-AS-I Vol.9, dated 10.11.2015 on the subject of ‘Regulation of IP interconnection charges’ have also mentioned that one of the issues of concern to the Telecom Industry is removal of restriction of Interconnection at IP level to ensure seamless IP interconnection and requested TRAI to indicate expected timeline for issuance of same.
3. Clause 27.3 of Unified License (similar clause in other license) specifically deals with interconnection between the networks of different licensees for carrying circuit switched traffic. The clause also provides for interconnection between a circuit switched network and an IP based network through a Media Gateway Switch. However there is no explicit mention of an interconnection at IP level between two licensees.
4. Further, in the National Telecom Policy (NTP-2012), Government of India has also envisaged the need to move towards a newer Unified Licensing regime which would exploit benefits of convergence, spectrum liberalization and facilitation of delinking of licensing from delivery of services to the end users. NTP-2012 clearly brings out the need for addressing the requirement of non-discriminatory interconnection including interconnection at IP level.
5. Considering the above, TRAI initiated a short consultation with the stakeholders vide “Consultation Note on IP Based Interconnection”, dated 27.11.2015. The stakeholders were asked to furnish their comments on the amendment to incorporate a provision in all relevant Licenses to the effect that licensees may also interconnect at IP level or any other emerging/latest technology specified by the licensor subject to compliance of Regulations/Directions/Determinations etc. issued by TRAI on the subject from time to time.

6. Stakeholders were requested to furnish their written comments on the amendment by 7.12.2015 and counter-comments by 14.12.2015. Dates were extended to 14.12.2015 and 21.12.2015 respectively on the request of some stakeholders.

7. The comments and counter comments of stakeholders to the proposed amendment were examined. Most of the stakeholders were of the view that IP interconnection should not be mandated and should be based on mutual agreement. Some of them opined that there is no need for amendment as the existing license condition already provides for interconnection of PLMN and PSTN services on circuit switched as well as IP networks. A few stakeholders stated that IP Interconnection should mean only PLMN/PSTN to PLMN/PSTN voice/SMS traffic and should not mean any data/packets through Internet.

8. Some stakeholders in their comments favored the removal of existing restrictions on CUG/IP/PSTN interconnections as it is important to meet the Government's initiative to spread the BPO industries in the smaller cities. Some have also proposed implementation of IP based interconnection in phased manner and requested that similar amendments may be done in UASL and CMTS licenses also.

9. After analyzing the comments and counter comments of the stakeholders, the Authority is of the view that in India, the deployment of IP based network is increasing every year. Today in many cases, the voice traffic is also being carried over IP. As IP based networks continue to proliferate and traditional circuit switch networks are gradually being phased out, there exists need to facilitate interconnection at IP level. As explicit clause relating to interconnection at IP level is not provided in the existing licenses, insertion of such clause is needed to promote interconnection at IP level.

10. Accordingly, the Authority recommends the amendment to clause 27.3 **(Annexure)** in the Unified License for interconnection at IP level. It is also recommended that similar amendment to this effect may also be incorporated in the relevant clauses in other license agreements.

11. The key objective to seek the said amendments is to ensure that terms and conditions of interconnection, as notified by TRAI, are in harmony with the terms and conditions of license agreement.

List of Acronyms

Sl. No.	Acronym	Description
1	IP	Internet Protocol
2	NTP	National Telecom Policy
3	PLMN	Public Land Mobile Network
4	PSTN	Public Switched Telephone Network
5	SMS	Short Message Service
6	CUG	Common User Group
7	BPO	Business Process Outsourcing
8	UASL	Unified Access Service Licence
9	CMTS	Cellular Mobile Telephone Service
10	TEC	Telecom Engineering Centre

ANNEXURE

Clause (UL)	Existing	Proposed Text
27.3	<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>Interconnection between the networks of different Licensees for carrying circuit switched traffic shall be as per national standards of CCS No.7 and for carrying IP based traffic as per Telecom Engineering Centre (TEC) standards as amended from time to time 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>