

To
Shri Akhilesh Kumar Trivedi,
Advisor (Networks, Spectrum and Licensing),
Telecom Regulatory Authority of India

Sub: Counter Comments on the responses to TRAI Consultation Paper on *Terms and Conditions of Network Authorisations to be Granted Under the Telecommunications Act, 2023*

Dear Sir,

With reference to the Consultation Paper issued by Telecom Regulatory Authority of India on '*Terms and Conditions of Network Authorisations to be Granted Under the Telecommunications Act, 2023*', **Extreme Infocom Pvt. Ltd.**, would like to put forth its counter comments on the responses to this consultation paper from some stakeholders.

In this regard, we would like to share our counter-comments and related recommendations on the questions pertaining to the regulation of IXPs in particular. This may be considered in conjunction with the comments submitted by us in response to the consultation paper.

Q6. Whether there is a need to make any changes in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the Internet Exchange Point (IXP) authorisation, as recommended by TRAI on 18.11.2022? If yes, what changes should be made in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, 72 operational, security etc.) of the IXP authorisation? Kindly provide a detailed response with justification.

This submission addresses the suggestions to bring Internet Exchange Points (IXPs) under the scope of either ISP authorization or a separate class license. Stakeholders such as **AA+ Consultants, Reliance, and Tata Communications** have advocated for IXP inclusion under ISP authorization, while **Vodafone** has supported a separate class license for IXPs, based on their interconnection functions. We respectfully disagree with these proposals and provide counterarguments below:

IXPs are outside the purview of Telecommunications Act, 2023

The classification of Internet Exchange Points (IXPs) as networks within this consultation framework is misaligned with both their functional role and the definitions set out in the Telecommunications Act, 2023 ('Telecom Act'). Section 2(s) of the Act defines a telecommunication network as a "*system or series of systems of telecommunication equipment or infrastructure intended for providing telecommunication services*". However, IXPs do not fulfill this role, as they neither operate as telecommunication networks nor provide telecommunication services independently. IXPs serve as neutral infrastructure points, merely facilitating traffic exchange, and do not provide telecom services themselves. An analogy can be drawn with certain financial services applications that peer with cloud and CDN providers to enhance data flow rely on IXPs for efficient connectivity but are not themselves providing telecom services. Entities like the National Informatics Centre (NIC) and the National Knowledge Network (NKN) also manage extensive

networks for data exchange among various public institutions, yet their intent is not to provide telecom services to the public. **The mere facilitation of data routing, as performed by IXPs, NIC, or NKN, does not qualify these networks as ‘telecom networks’ under the Act.** This distinction ensures that only those networks with a direct intent to deliver telecom services are regulated as telecom networks, in alignment with the Act’s principles.

Unlike telecommunication networks, IXPs do not provide end-to-end connectivity or telecommunication services directly to end-users. They do not transmit, emit, or independently receive data; rather, they facilitate inter-network traffic exchange without participating in the broader transmission of telecommunication services. The neutrality of IXPs ensures that all participating networks have equal access to exchange traffic without favoritism or prioritization, further distinguishing them from traditional networks that may have proprietary interests. Section 2.42 of the consultation paper itself acknowledges this role, describing IXPs as facilities that "*allow networks to exchange internet traffic with one another.*" **This characterization by TRAI confirms that IXPs facilitate data exchange between networks without serving as network providers themselves.** This submission is also echoed by NIXI in its [response](#) to this consultation paper wherein they argue that IXPs do not provide end-to-end connectivity or telecommunication services directly to end users and hence cannot be qualified as ‘telecom network’. Moreover, NIXI itself has been operating as an IXP since 2003 without any license which is indicative of the licensing intention of DoT.

Additionally, there is broad international recognition that the internet functions as an information service, distinct from telecommunications. Today's interconnected digital landscape increasingly unbundles network and service functions, moving away from traditional, vertically integrated telecommunications models. IXPs embody this shift, acting as essential hubs that enable seamless data exchange across networks without delivering telecommunication services. By categorizing IXPs separately from networks, TRAI would reflect this modern approach, support India's digital growth, and align with global practices.

Moreover, these entities facilitate connectivity but do not offer telecommunication services themselves. Neither do they utilize scarce resources like spectrum nor pose significant public health risks. Thus, subjecting them to authorization contradicts the Act's intent and could stifle innovation and growth in the digital ecosystem.

Rebuttal to the suggestion on inclusion of IXPs under ISP Authorization

The suggestion to include IXPs within the ISP license framework is fundamentally flawed and overlooks the distinct nature of IXPs in the broader telecommunications ecosystem. Stakeholders have claimed that IXPs provide a transit service that facilitates interconnection and traffic exchange among ISPs, content providers, and CDNs, which aligns with the core functionalities of ISPs. Moreover, given the liberalized ISP license framework under the Telecommunications Act, 2023, there is no need for a separate IXP category as their services are analogous to those of ISPs and NLDOs/ILDOS. Stakeholders contend that creating a separate authorization would lead to unnecessary fragmentation, scope overlaps, and potential arbitrage opportunities, undermining the streamlined licensing framework.

IXPs, by nature, differ from ISPs and should not be burdened with similar licensing conditions. In countries with thriving IXP ecosystems, such as Singapore, Canada, and the UK, IXPs are either lightly regulated or not regulated at all.

While ISPs deliver internet services directly to end-users, IXPs only facilitate data exchange between networks. The assertion that their activities align with ISP functions ignores this operational neutrality. IXPs do not provide end-to-end connectivity or IP transit services, nor do they manage data content. According to the TRAI [Act](#), 1997, a service provider is an entity that provides public telecommunications services to end-users. By this definition, IXPs do not qualify as an ISP, as they neither offer direct services to consumers nor participate in IP transit services. Their sole function is to facilitate traffic exchange between network operators; thus, subjecting them to ISP-like licensing is inappropriate and restrictive.

Judicial precedents such as [Viom Network Ltd.](#), affirm that entities providing connectivity between networks, rather than direct consumer services, do not fall within the scope of ISP licensing. Extending licensing to IXPs risks unintentionally subjecting entities which create networks but do not intend to provide telecommunication services—many of which rely on IXPs for efficient data routing—to licensing requirements.

Rebuttal to the Proposal for a Separate Class License for IXPs

Commenting in favour of the 2022 TRAI recommendations on ‘Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India’, Vodafone has supported the creation of a distinct class license for IXPs, arguing that their interconnection services require specific regulatory oversight. This submission misinterprets IXPs operational role, scope of the Telecom Act, 2023 as well as the legislative intent behind it. The submission also heavily relies on outdated recommendations and prescriptive regulatory structures namely TRAI’s 2022 recommendations on IXPs, which propose a rigid licensing framework that directly contradicts the Act’s core goals of simplification and modernization.

On the other hand stakeholders such as ACTO have submitted that IXPs should be subject to light touch regulation with less burdensome compliance requirements.

As submitted in the previous paragraphs, IXPs do not fall under the definition of ‘telecom network’ and hence at the outset cannot be subjected to any authorisation under Section 3 of the Act. The legislative framework under the Telecom Act, 2023 does not support the creation of a separate authorization for IXPs. As per Section 3, authorizations are intended for entities that either provide telecom services or operate telecom networks. IXPs, which neither offer public services nor utilize scarce resources like spectrum, do not align with these criteria. Subjecting them to a distinct authorization framework would contradict the Act’s principles and legislative intent.

Moreover, subjecting IXPs to authorisation also disregards international approaches to regulating IXPs. Leading IXP markets like [Canada](#), [Finland](#), and the [UK](#) demonstrate that minimal regulatory intervention fosters innovation and market growth.

In Finland, IXPs are only required to submit a notification, avoiding the need for extensive compliance processes. Similarly, Canada imposes no licensing requirements, while organizations like the Canadian Internet Registration Authority (CIRA) actively support the development of local IXPs. In the UK, IXPs typically operate without licenses unless specific conditions, such as spectrum use, apply. This principle-based approach ensures that regulation matches the nature and function of the service, focusing oversight where it is most needed.

It is also important to keep in mind that most mature markets, like the examples above, follow a principle based approach to regulations - where regulations match the nature, function, and operation of each telecom service. India's IXP sector, still in its nascent stage, would benefit from adopting such a facilitative regulatory approach. Imposing licensing obligations akin to ISPs or creating a separate class license would introduce unnecessary barriers to entry, discourage smaller players, and reduce competition—ultimately undermining the growth of internet infrastructure in India.

In fact, similar comments have also been made by [Broadband India Forum](#) and [Lightstorm](#) Telecom Connectivity in their submissions to this consultation paper wherein they argue that IXPs should be kept outside the purview of telecom regulations keeping in mind the global best practices and also IXP's function which is starkly different from a telecom network.

Pertinently, TRAI's past recommendations for a class license for IXPs were not acted upon by DoT, indicating no intent to subject IXPs to the licensing regime. There has been no previous reference by DoT to regulate IXPs, and even TRAI's recommendation in 2011 for a class license for IXPs was not acted upon by DoT. Notably, TRAI did not argue that IXPs fell under Section 4 of the Telegraph Act, suggesting that the government intended to keep IXPs free from licensing requirements. Moreover, when the National Internet Exchange of India (NIXI) was established, there was no license requirement clarified for its operation, further indicating a preference for non-regulation.

IXPs have been operating in India without any licensing for more than two decades, likely because they do not provide services directly to end users of the internet. The functioning of IXPs is similar to that of system integrators or network equipment providers who offer managed services and charge their customers on a recurring basis.

Imposing authorisation on IXPs lacks substantial regulatory justification even from a security standpoint. IXPs do not host or store content, nor do they have oversight over the data passing through them, as all traffic remains encrypted. The ISPs connected to IXPs are already regulated under licenses with stringent national security obligations, meaning that traffic routed through IXPs is subject to existing security requirements. IXPs typically operate as small companies with limited resources, focusing on infrastructure rather than high-margin consumer services. Enforcing a license would add regulatory and financial strain without absolutely any benefits to data privacy, sovereignty, or national security.

For the reasons cited above, we submit that comments recommending a separate class license for IXPs is not only against the scope of Telecom Ac, 2023t but also detrimental to India's digital economy. By avoiding onerous compliance obligations, India can encourage investment in IXP infrastructure, which is crucial for optimizing local internet traffic flow and minimizing reliance on international routes. The

imposition of a license may deter investment and innovation in the IXP sector, impeding the government's goal to expand affordable and accessible internet access across the country.

Submission regarding comments made on IXP's role of providing colocation place and preventing end user from connecting at IXPs

Stakeholders such as IAFI and Bharti Airtel have submitted that the role of the exchanges in this framework should only be to provide a common location or colocation place. They also submit that the arrangement between IXPs and ISPs should not be expanded to cover the services provided by the ISPs. This means that no content-to-content peering should be allowed, i.e., the end user should not be allowed to connect at exchanges/IXP for any content-to-content peering as this would be inconsistent with the licensing and regulatory framework (wherein the content 'access' to a user is provided by a licensed ISP).

It is worth noting that the submissions made by IAFI and Bharti Airtel on this issue are identical in wording and structure. Such duplication raises questions about whether these submissions were independently developed or if they draw from a common source.

Having said that, we acknowledge and agree with the submission that the role of IXPs should be distinct from that of ISPs, emphasizing their limited scope to providing a neutral infrastructure for interconnection. As highlighted, IXPs primarily enable ISPs to peer with each other under mutually agreed-upon commercial terms and do not—and cannot—provide content-to-content peering services directly to end users. This functional distinction is entirely consistent with our position and aligns with the submission that IXPs ought not to be covered under an ISP authorisation.

Furthermore, it is also pertinent to note that IXPs are infrastructure entities that connect networks holding Autonomous System Numbers (ASNs), a prerequisite for participation in an exchange. As end users neither possess ASNs nor require them to access broadband services, IXPs cannot provide direct services to end users. This ensures that IXPs remain neutral platforms that do not overlap with the regulatory framework governing ISPs, whose primary role is to deliver internet services to consumers.

However, reducing IXPs' role to merely providing colocation infrastructure, as suggested, would inadvertently undermine their core function of enhancing traffic exchange efficiency. IXPs significantly benefit ISPs by connecting them to localized content providers, which reduces upstream costs and enables the provision of high-speed, affordable broadband. For instance, prior to the expansion of private IXPs in India, broadband speeds were capped at [512 Kbps](#) with limited data caps. The growth of IXPs has allowed for speeds of up to 100 Mbps with unlimited data at significantly lower costs, driving affordability and accessibility. Limiting IXPs to colocation alone would necessitate the creation of additional infrastructure for interconnection, increasing costs for ISPs and, ultimately, broadband consumers.

Given India's low fixed broadband penetration ([7-8%](#)), the expansion of IXPs is critical to support the growth of ISPs, particularly in underserved regions. Introducing onerous licensing or compliance requirements for IXPs would hamper their development, restricting competition and innovation in India's digital ecosystem.

Conclusion

In conclusion, IXPs should neither be included under the ISP license framework nor subjected to a separate class license. Such measures would impose disproportionate regulatory burdens, contradict legislative intent, and hinder the development of India's internet infrastructure. More importantly, this goes against the purview of the Telecom Act itself. We thus urge TRAI to recommend exempting IXPs from licensing requirements and adopt a proportionate regulatory approach that supports their growth while maintaining the principles of the Telecommunications Act, 2023.